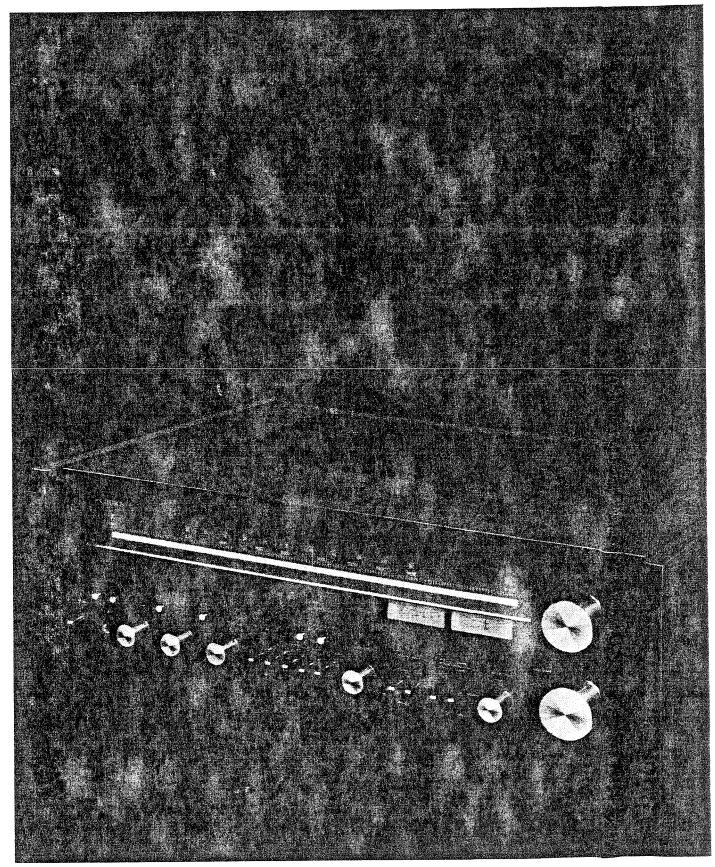
Technics

FM/AM STEREO RECEIVER

SA-800A

OPERATING INSTRUCTIONS



Before operating this unit, please read these instructions completely.

Dear Stereo Fan

Your new "Technics" FM/AM stereo receiver was manufactured and assembled under exacting quality control standards.
The incorporation of the latest advances in design and the use of the most modern components assure outstanding performance with superb sensitivity and tonal quality.
A few minutes of your time, wisely spent reading carefully through this instruction booklet, will assure you of getting the maximum benefit of this fine component's potential.

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ACCESSORIES

FM feeder antenna 1

PRODUCT SERVICE

WARNING CONCERNING REMOVAL OF COVERS
This set should be serviced by qualified technicians only. No service information is provided for customers.
Should your "Technics" product ever require servicing, refer to the Directory of Authorized Service Centers or your franchised "Technics" dealer for detailed instructions.

LOCATION OF SERIAL NUMBER
You will find the serial number located at the back of the unit.

MAINTENANCE OF EXTERNAL SURFACES

To clean, use a soft, dry cloth. If the surfaces are extremely dirty, use a soft cloth soaked in a detergent (such as used for washing dishes; diluted to 1/5 or 1/6 strength), and then wring the cloth well. Wipe once again with a soft, dry cloth. Never use chemicals such as alcohol, paint thinner and benzine, nor a chemically-treated cloth, to clean this unit because the finish may be damaged or lose its luster.

BEFORE OPERATION

Use a ⊖ screwdriver to set the voltage selector (on the rear panel) to the voltage setting for the area in which the set will be used.
Note that this unit will be seriously damaged if this setting is not made correctly.

TECHNICAL SPECIFICATIONS

POWER AMPLIFIER SECTION

Rated minimum sine wave RMS power output
20 Hz~20 kHz
both channels driven
0.04% total harmonic distortion
125W per channel (8 ohms)
125W per channel (4 ohms)

1 kHz continuous power output	
both channels driven	
0.04% total harmonic distortion	
	135W per channel (8 ohms)
	135W per channel (4 ohms)
Total harmonic distortion	
0.04% at rated power (20 Hz~20 kHz, 8 ohms, 4 ohms)	
0.015% at half power (20 Hz~20 kHz, 8 ohms)	
0.025% at half power (20 Hz~20 kHz, 4 ohms)	
0.005% at half power (1 kHz, 8 ohms, 4 ohms)	
Inter modulation distortion	0.04%
Frequency response	5 Hz~90 kHz, −1 dB
S/N (IHF, A)	112 dB
Residual hum and noise	0.4 mV
Damping factor	50 (8 ohms)
	25 (4 ohms)
Input sensitivity and impedance	1V/100 kilohms
Load impedance	
MAIN or REMOTE	4~16 ohms
MAIN + REMOTE	8~16 ohms

PREAMPLIFIER SECTION

Input sensitivity and impedance	
PHONO	2.5mV, 47 kilohms
AUX	150mV, 47 kilohms
PLAYBACK TAPE 1	180mV, 47 kilohms
TAPE 2	150mV, 47 kilohms
REC/PLAY	180mV, 47 kilohms
Phono max. input voltage	200mV (1 kHz RMS)
S/N (IHF, A)	
PHONO	83 dB
AUX	97 dB
Frequency response	
PHONO	RIAA standard curve ±0.2 dB
AUX	20 Hz~20 kHz +0 dB
	−0.3 dB
	10 Hz~40 kHz −1 dB
Tone controls	
BASS	50 Hz, +12 dB~ −12 dB
MIDDLE	1 kHz, + 7 dB~ −7 dB
TREBLE	20 kHz, +12 dB~ −12 dB
Low filter	100 Hz, −6 dB/oct.
High filter	7 kHz, −6 dB/oct.
Loudness control (−30 dB)	50 Hz, +9 dB
Muting	−20 dB
Output voltage and impedance	
PRE OUT	rated 1V/3.9 kilohms
	max. 3V/3.9 kilohms
REC OUT TAPE 1	150mV
TAPE 2	150mV
REC/PLAY	30mV/80 kilohms
Acoustic controls (at tone "0" position)	
LOW BOOST	100 Hz, +6 dB
HIGH BOOST	10 kHz, +6 dB

FM TUNER SECTION

Frequency range	88~108 MHz
Sensitivity	10.3 dBf (1.8μV IHF '58)
50 dB quieting sensitivity	
MONO	13.2 dBf (2.5μV IHF '58)
STEREO	36.2 dBf (35.4μV IHF '58)
Total harmonic distortion	
100 Hz	0.15% (MONO), 0.3% (STEREO)
1 kHz	0.1% (MONO), 0.2% (STEREO)
6 kHz	0.3% (MONO), 0.4% (STEREO)
S/N	77 dB (MONO), 73 dB (STEREO)
Frequency response	20 Hz~18 kHz, +0.2, −0.8 dB
Alternate channel selectivity	80 dB
Capture ratio	1.0 dB
Image rejection at 98 MHz	85 dB
IF rejection at 98 MHz	100 dB
Spurious response rejection at 98 MHz	100 dB
AM suppression	60 dB
Stereo separation	45 dB (1 kHz), 35 dB (10 kHz)
Leak carrier	−70 dB (19 kHz), −50 dB (38 kHz)
Antenna terminals	300, 75 ohms

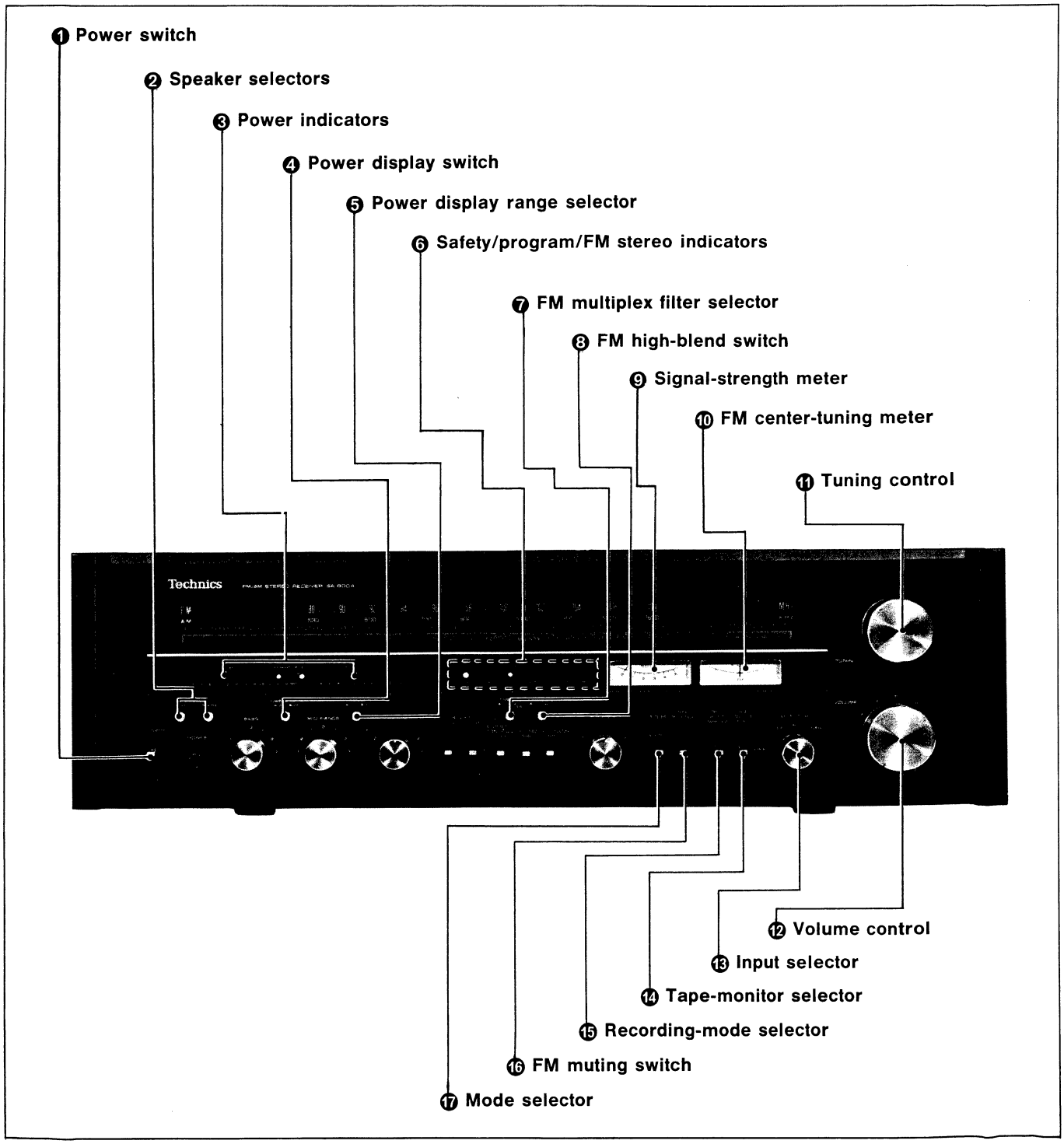
AM TUNER SECTION

Frequency range	525~1605 kHz
Sensitivity	30μV, 250μV/m
Selectivity	35 dB
Image rejection at 1000 kHz	50 dB
IF rejection at 1000 kHz	45 dB

GENERAL

Power consumption	223W
Power supply	50/60 Hz, 110/120/220/240V AC
Dimensions (W × H × D)	582 × 177 × 393 mm
	$22\frac{29}{32}$" × $6\frac{31}{32}$" × $15\frac{15}{32}$"
Weight	19 kg, 41.9 lb.

FRONT PANEL CONTROLS AND THEIR FUNCTIONS



❶ Power switch (POWER)

Note: Speakers may be damaged if connection cords to a record player, tape deck, etc. are connected or disconnected with power switch on.

❷ Speaker selectors (SPEAKERS)

For selection of speaker systems connected to "MAIN" or "REMOTE" terminals on rear panel. Push button inward (■ — ■) to select the desired speaker system.

❸ Power indicators (POWER LEVEL)

These are indicators which electronically show the peak output level of this unit with an extremely fast response time.

These indicators can be used to watch continuous signal changes, such as in music signals.

If the impedance of the speaker systems is 8Ω, the

indicators show the actual standard value; if the impedance is 16Ω, the actual value is one-half of that shown; and, if the impedance is 4Ω, the actual value is twice the indicated value.
If main and remote speaker systems are used at the same time, inpendance will change according to the following equation:

$$\text{Total impedance} = \frac{1}{\frac{1}{R} + \frac{1}{R}}$$

Where: R = impedance of speakers used

❹ Power display switch (POWER DISPLAY)

This switch is used to turn the power indicators③ on and off.

❺ Power display range selector (POWER DISPLAY RANGE)

This selector is used to select the sensitivity of the power indicators③.
When the output is small, set this selector to the "X0.1" position. The indicated value will then be one-tenth of the actual value.

❻ Safety/program/FM stereo indicators (SAFETY/PROGRAM/FM STEREO)

SAFETY:
Usually remains indicated; not illuminated if an abnormal condition in output circuitry is detected. (If not illuminated, refer to page 8.)
PROGRAM:
When the program source is selected by the input selector⑬, the one of these indicators which corresponds to the selected program source will also illuminate.
FM STEREO:
This indicator automatically illuminates when an FM stereo broadcast is being received.

❼ FM multiplex filter selector (FM MPX FILT)

Set to the "IN (REC)" position when recording an FM stereo broadcast to a tape deck which has low-frequency recording bias.
When set to the "IN (REC)" position, the "beat" sound generated by the 38 kHz sub-carrier signal of the FM broadcast and the recording bias of the tape deck will be eliminated.

❽ FM high-blend switch (FM HI-BLEND)

Set to the "ON" position if the noise in the high-sound range is excessive when listening to an FM stereo broadcast.
When this switch is set to the "ON" position, the noise in the high range, which is comparatively more annoying, is mixed in the left and right channel without acoustically disturbing the stereo feeling, and the noise is reduced.

❾ Signal-strength meter (SIGNAL)

This meter shows the strength of the antenna input level. The point of best reception for both FM and AM is where the indication is farthest to the right.

❿ FM center-tuning meter (FM TUNING)

This meter indicates the optimum tuning point for best reception, with least distortion, of FM broadcasts.
After tuning by referring to the signal-strength meter⑨, adjust the tuned position so that the indication needle of this meter is at the center position.
Note that this meter will also indicate the center position when the broadcast is completely detuned.

⓫ Tuning control (TUNING)

Tune to the desired broadcast while referring to the signal-strength meter⑨ and the FM center-tuning meter⑩.

⓬ Volume control (VOLUME)

This control is used to adjust the volume level.

⓭ Input selector (SELECTOR)

AM:
Set to this position for reception of AM broadcasts.
FM AUTO:
Set to this position for reception of FM broadcasts.
PHONO:
Set to this position to listen to phono discs.
AUX:
Set to this position to use equipment connected to the auxiliary input terminals ("AUX") on the rear panel of this unit.

⓮ Tape-monitor selector (TAPE MONITOR)

TAPE 1:
Set to this position to playback or monitor the sound from tape deck 1.
SOURCE:
Set to this position to listen to phono discs or radio broadcasts and to record from tape deck 1 and/or 2.
TAPE 2:
Set to this position to playback or monitor the sound from tape deck 2.
Notes:
* Tape deck 1 is the tape deck connected to the tape deck 1 terminals ("TAPE 1") on the rear panel of this unit.
* Refer to page 8 for detailed information concerning tape monitoring.

⓯ Recording-mode selector (REC MODE)

TAPE 1▶2:
Set to this position for recording from tape deck 1 to tape deck 2.
SOURCE:
Set to this position for recording phono disc sound or radio broadcasts to tape deck 1 and/or tape deck 2.
TAPE 2▶1:
Set to this position for recording from tape deck 2 to tape deck 1.
Note: Tape deck 1 is the tape deck connected to the tape deck 1 terminals ("TAPE 1") on the rear panel of this unit.

⓰ FM muting switch (FM MUTING)

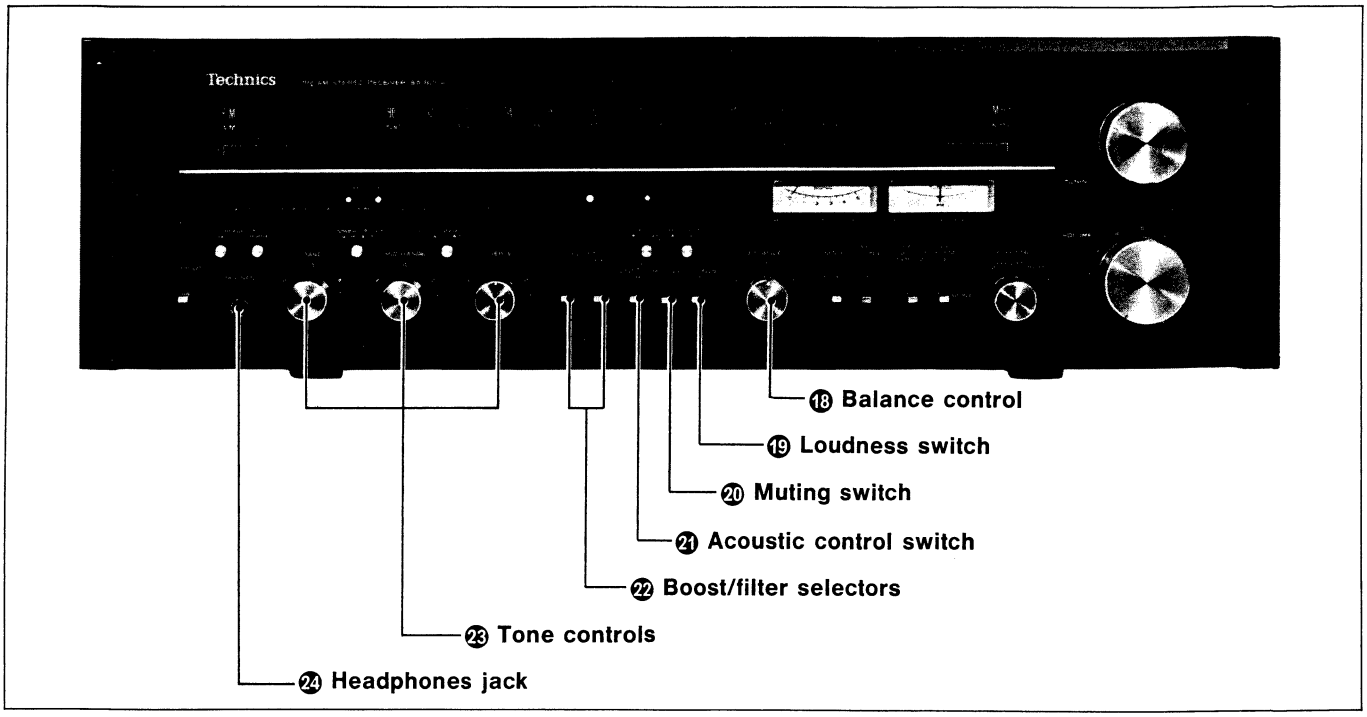
Set this switch to the "ON" position to eliminate the characteristic noise between stations when tuning to an FM broadcast.
In an area where reception is poor because signal strength is weak, such as in mountainous regions, the broadcast signal might also be eliminated (at the "ON" position). If so, set this switch to the "OFF" position for reception. Between-station noise might be heard at the "OFF" position, however, so the volume level should be reduced when tuning to the broadcast.

⓱ Mode selector (MODE)

STEREO:
Set to this position to listen in stereo.
MONO:
Set to this position to listen monaurally. The left and right sounds will be mixed, and the same sounds will be heard from both speakers. Set to this position to listen to an FM stereo broadcast which is very noisy.

FRONT PANEL CONTROLS AND THEIR FUNCTIONS

(continued)



⑱ Balance control (BALANCE)

To balance the left and right volume level, set the mode selector⑰ to the "MONO" position, and use this control to balance the sound so that it seems to be heard from the position half way between the speakers.

⑲ Loudness switch (LOUDNESS)

It is usually difficult for human ears to clearly hear low-range sound when the volume level is low.
When listening at a low volume level, therefore, this switch can be set to the "ON" position to compensate for this, making sound more dynamic and powerful.

⑳ Muting switch (MUTING)

When this switch is set to the "−20 dB" position, the output level will be reduced to 1/10th, making it useful for temporary reduction of the volume level, without disturbing the setting of the volume control, such as when changing discs, etc. It is also possible, when listening at a low volume level, to set it to the "−20 dB" position and thereby make more delicate adjustments of the volume level than at the "0 dB" position.

㉑ Acoustic control switch (ACOUSTIC CONTROL)

This is the switch used to turn on and off the adjustment function of the tone controls㉓ and the boost/filter selectors㉒.
When this switch is set to the "OFF" position, characteristics are "flat" regardless of the settings of these controls, and they will not function.

㉒ Boost/filter selectors (BOOST • FILTERS)

These selectors can be used to select the characteristics of change of the low-sound range and high-sound range adjusted by using the tone controls㉓. These selectors function only when the acoustic control switch㉑ is on.

BOOST:
When the "LOW" switch is set to the "BOOST" position, low-range sound is emphasized ("boosted") in the 100 Hz range. When the "HIGH" switch is set to the "BOOST" position, high-range sound is emphasized in the 10 kHz range. The amount of actual emphasis will differ depending upon the settings of the bass and treble tone controls㉓, but the maximum level of the emphasized range will be the same as when the tone controls㉓ are set to their maximum position (+5).
When listening to music with a strong beat, such as rock, set both switches ("LOW" and "HIGH") to this position.

OFF:
When the switches are set to this position, the boost and filter functions are turned off.

FILTER:
When the "LOW" switch is set to the "FILTER" position, low-range sound of 100 Hz and lower is cut.
When the "HIGH" switch is set to the "FILTER" position, high-range sound of 7 kHz and higher is cut.
Set the "LOW" switch to this position to eliminate low-range noises such as motor rumble, and set the "HIGH" switch to this position to eliminate high-range noises such as tape "hiss" noise, etc.

㉓ Tone controls (BASS/MID RANGE/TREBLE)

The bass control is for adjustment of low-range sound, the mid-range control for mid-range sound, and the treble control for high-range sound.

㉔ Headphones jack (PHONES)

Use headphones with an impedance of 4～16Ω.

CONNECTION NOTES

CONNECTION OF AN FM ANTENNA

For best reception of FM broadcasts, select an FM antenna with the best characteristics for the area in which the unit is to be used.

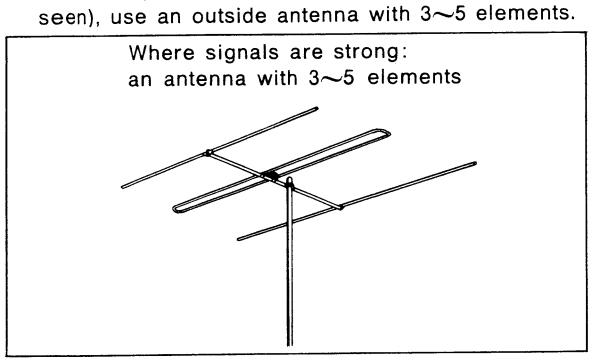
■ Included antenna

The included antenna is easy to install and is suggested for use until a permanent antenna is installed especially for FM. An antenna especially for FM should be installed in order to obtain the best reception characteristics of which this unit is capable.

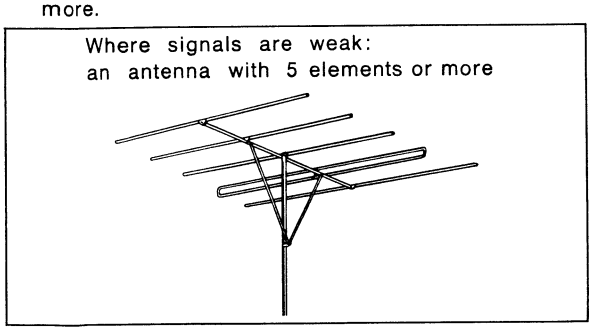
■ Antenna exclusively for FM reception

(1) Selection

A) In areas where very strong broadcast signals are received (where the transmitting antenna can be seen), use an outside antenna with 3~5 elements.



B) In areas where weak broadcast signals are received (in mountainous regions or between tall buildings), use an outside antenna with 5 elements or more.



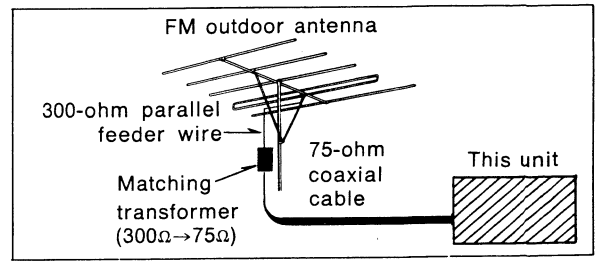
Consult with your dealer for detailed advice concerning the number of elements the antenna should have.

(2) Connection wire from the antenna

Two types of wire are most commonly used for connection from the antenna: 300Ω parallel feeder wire and 75Ω coaxial cable (type 3C-2V or 5C-2V). For best resistance to external interference noise, the use of 75Ω coaxial cable is suggested.

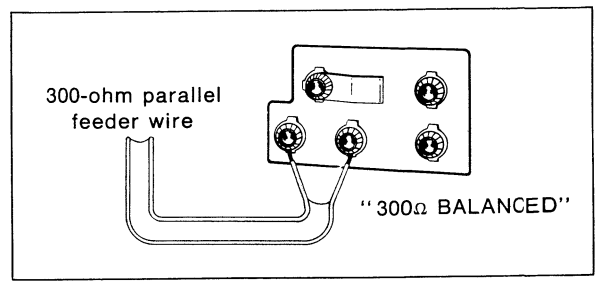
(3) Impedance matching

If it is impossible to make a direct connection with 75Ω coaxial cable from the antenna, a matching transformer should be installed, as close to the antenna itself as possible.

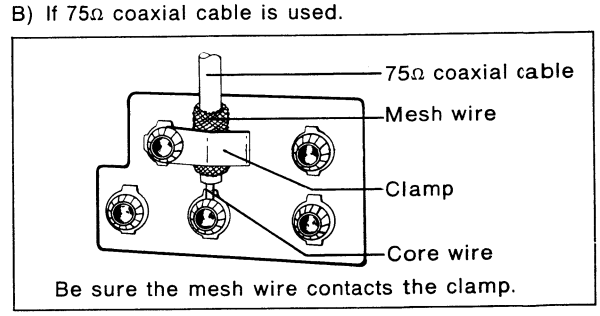


(4) Connection

A) If 300Ω parallel feeder wire is used.



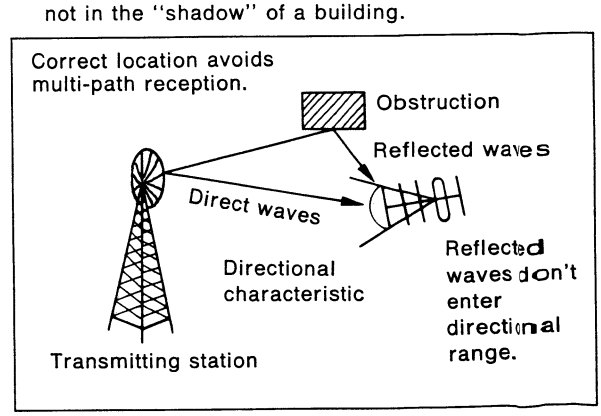
B) If 75Ω coaxial cable is used.



(5) Location of antenna

Install the antenna:

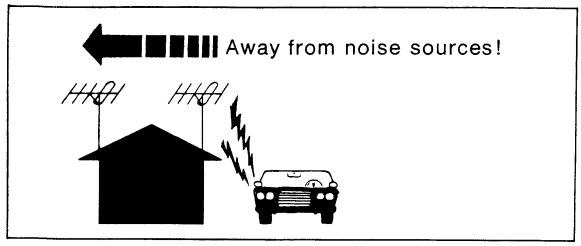
A) Where it will receive FM broadcast signals directly; not in the "shadow" of a building.



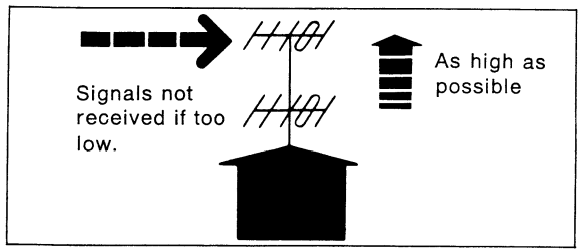
Note: Multi-path reception is the distortion which results from the reception of two types of signals: those reflected from nearby buildings, mountains, etc., and those received directly from the broadcasting station.

CONNECTION NOTES (continued)

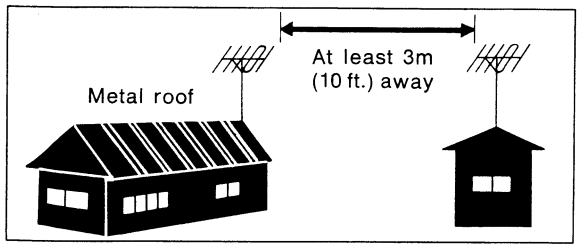
B) Away from busy roads, and away from neon signs.



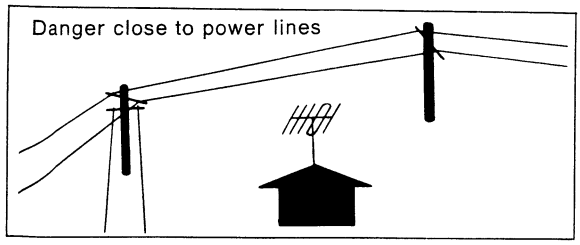
C) At least 4m (13 ft.) above the ground (except in mountainous regions, etc.).



D) At least 3m (10 ft.) away from a metal roof or other antennas.

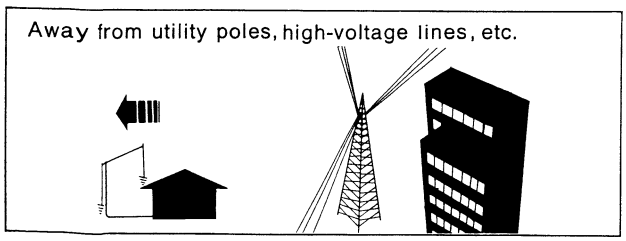


E) To avoid danger, away from electric power lines.



THE AM ANTENNA

If an outside AM antenna is installed (in mountainous regions or between reinforced-concrete buildings), install it in a location away from utility poles, high-voltage power lines, high buildings and busy roads.

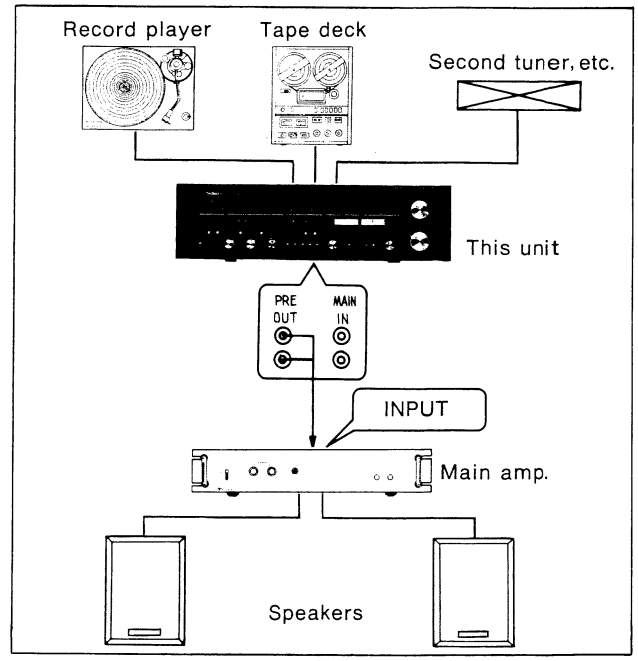


THE PRE OUT/MAIN IN TERMINALS

These terminals are used when this unit is to be used independently as a pre-amplifier or as a main amplifier. Remove the connection pins only when this unit is used as a preamplifier or main amplifier.
Be sure the power switch① is "OFF" before removing the connection pins.

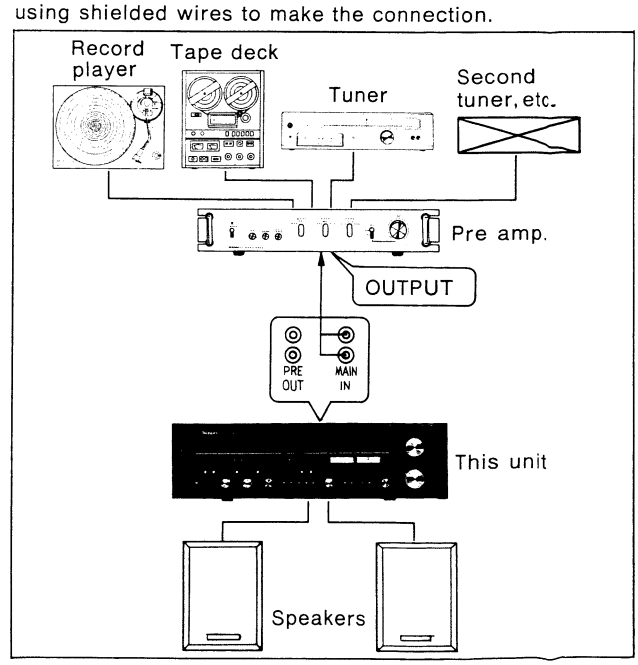
TO USE THIS UNIT AS A PRE-AMPLIFIER

Connect the pre-amplifier output terminals ("PRE OUT") of this unit with the input terminals ("INPUT") of the main amplifier, using shielded wires to make the connection.



TO USE THIS UNIT AS A MAIN AMPLIFIER

Connect the main input terminals ("MAIN IN") of this unit with the output terminals ("OUTPUT") of the pre-amplifier, using shielded wires to make the connection.



TAPE RECORDING AND TAPE-TO-TAPE RECORDING

TAPE RECORDING

When the recording-mode selector⑮ is set to the "SOURCE" position, the signal source selected by the input selector⑬ is emitted from the tape deck 1 or 2 recording output terminals ("REC OUT").

(1) Set the recording-mode selector⑮ to the "SOURCE" position.
(2) Set the input selector⑬ to the position corresponding to the program source to be recorded.
(3) Adjust the recording level of the tape deck, and begin the recording.

TAPE-TO-TAPE RECORDING

If two tape decks are connected, recordings can be made from one deck to the other.

■ **To record from tape deck 1 to 2, or from 2 to 1:**

(1) Set the recording-mode selector⑮ to the "TAPE 1▶2" position.
(2) Prepare tape deck 1 (or tape deck 2) for playback, and tape deck 2 (or tape deck 1) for recording, and begin the tape-to-tape recording.
To record from tape deck 2 to tape deck 1, set the recording-mode selector⑮ to the "TAPE 2▶1" position.

■ **To listen to phono discs or a radio broadcast while recording from tape to tape:**

By setting the tape-monitor selector⑭ to the "SOURCE" position, it is possible to listen to phono discs or a radio broadcast while recording from tape to tape.

TAPE MONITORING

If the tape deck to be used is the three-head type, tape monitoring is a method to listen to, and thus confirm, the material being recorded.

When the tape-monitor selector⑭ is set to the "SOURCE" position, the incoming sound can be heard immediately prior to recording. When it is set to the "TAPE 1" or "TAPE 2" position, the sound can be heard immediately after it is recorded.

Use the tape-monitor selector⑭, therefore, to confirm that the source sound is being recorded correctly, by switching back and forth between the "SOURCE" position and the "TAPE 1" or "TAPE 2" position.

IF THE "SAFETY" INDICATOR IS NOT ILLUMINATED

If an abnormal condition is detected in the output circuitry, the protection circuitry will function, and this indicator will no longer illuminate. If this occurs, turn off the power switch①, and check to determine the trouble, as described below.

Release the speaker selectors② to the off position (▬—▬), and turn on the power switch①.

If the indicator illuminates:

The problem is not in this unit.

Check for probable causes, such as shorted plus(⊕)and minus (⊖) speaker connection terminals or improper impedance of the speaker systems.

Note concerning speaker impedance:

If main and remote speaker systems are used at the same time, their impedance should be 8Ω or more. If only the main or the remote are to be used separately, their impedance should be 4Ω or more.

If the indicator does not illuminate:

The problem is in this unit. Turn off the power switch①, and request your dealer or service center to inspect and repair it.

DESCRIPTION OF THE AUTOMATIC SPEAKER-IMPEDANCE-COMPARATOR CIRCUITRY

(1) This unit employs unique automatic speaker-impedance-comparator circuitry to deliver optimum amplifier power output at the following recommended speaker loads.

MAIN OR REMOTE	4 ohms or greater
MAIN + REMOTE	8 ohms or greater

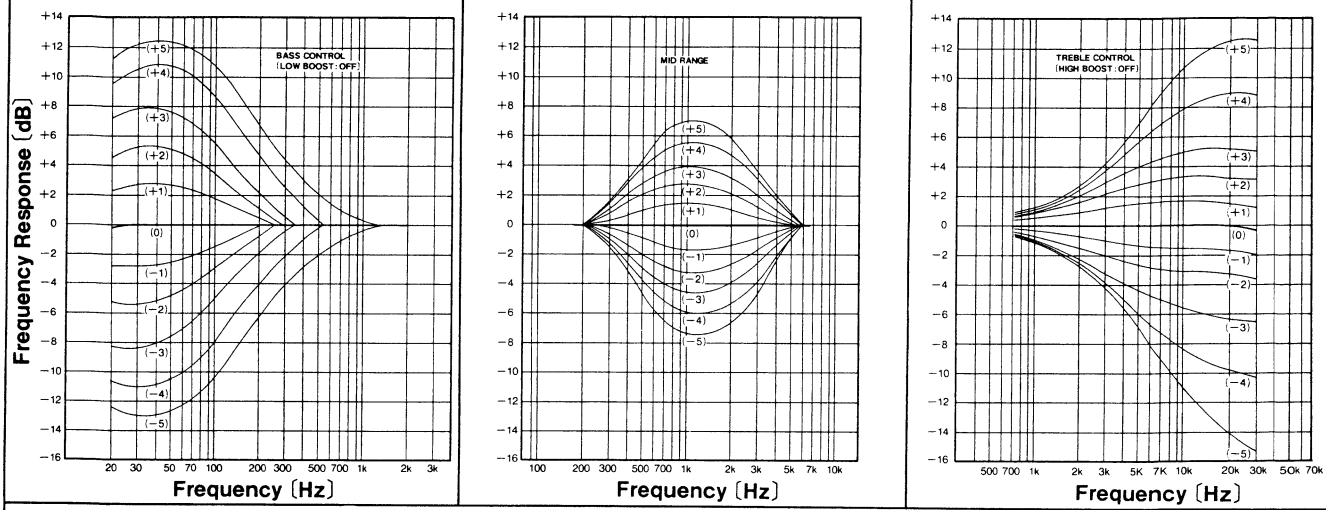
(2) Only one set of speakers should be connected to each speaker terminal at one time and external accessories such as a switching device, monitors, etc. should not be connected as this will defeat the function of the circuit, causing possible fire or electric shock due to excessive temperature.
(3) During initial set-up or when changing speakers, be sure to turn the speaker switch or power switch "OFF" first and then make the necessary connections. Check for proper polarity and then turn the speaker switch or power switch "ON". It is important that this sequence be observed for the proper operation of the automatic speaker-impedance-comparator circuitry.

ACOUSTIC CONTROLS

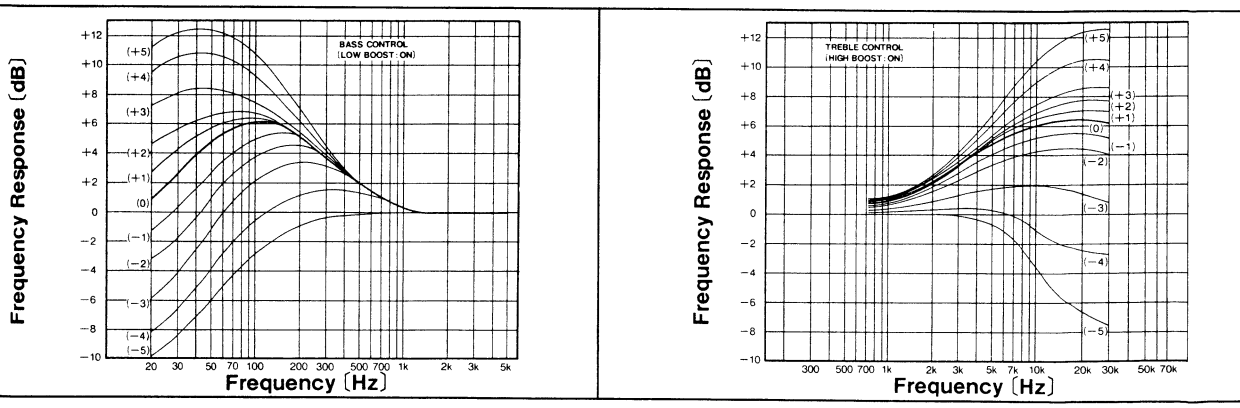
This unit has three separate tone controls㉓ (for bass, mid-range and treble), plus boost/filter selectors㉒ which can be for immediate emphasis of the sound.

This unit is designed with "flat" characteristics, so that it is usually possible to obtain the desired tone quality level. If, however, it is necessary to further emphasize or attenuate tone quality because of personal preference or listening room construction, the acoustic control switch㉑ can be set to the "ON" position in order to make it possible to use the tone controls㉓ and boost/filter selectors㉒.

(1) Characteristics of change: tone controls㉓



(2) Characteristics of change: tone controls㉓ and boost/ filter selectors㉒ combined



FOR LONG AND SAFE USE OF THIS UNIT

1. Use an ordinary household AC power source

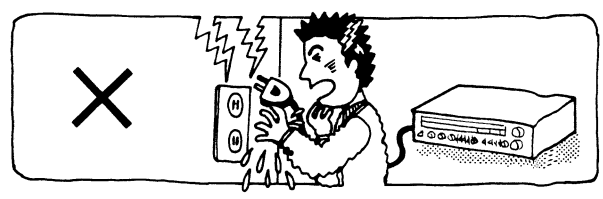
1) Use from an AC power source high voltage, such as for air conditioners, is very dangerous.
Be extremely careful not to make a connection to the electrical outlet for a large air conditioner or central-heating unit which uses high voltage, because there is the possibility of fire.

2) A DC power source cannot be used.
Be sure to check the power source carefully, especially on a ship or other place where DC is used.

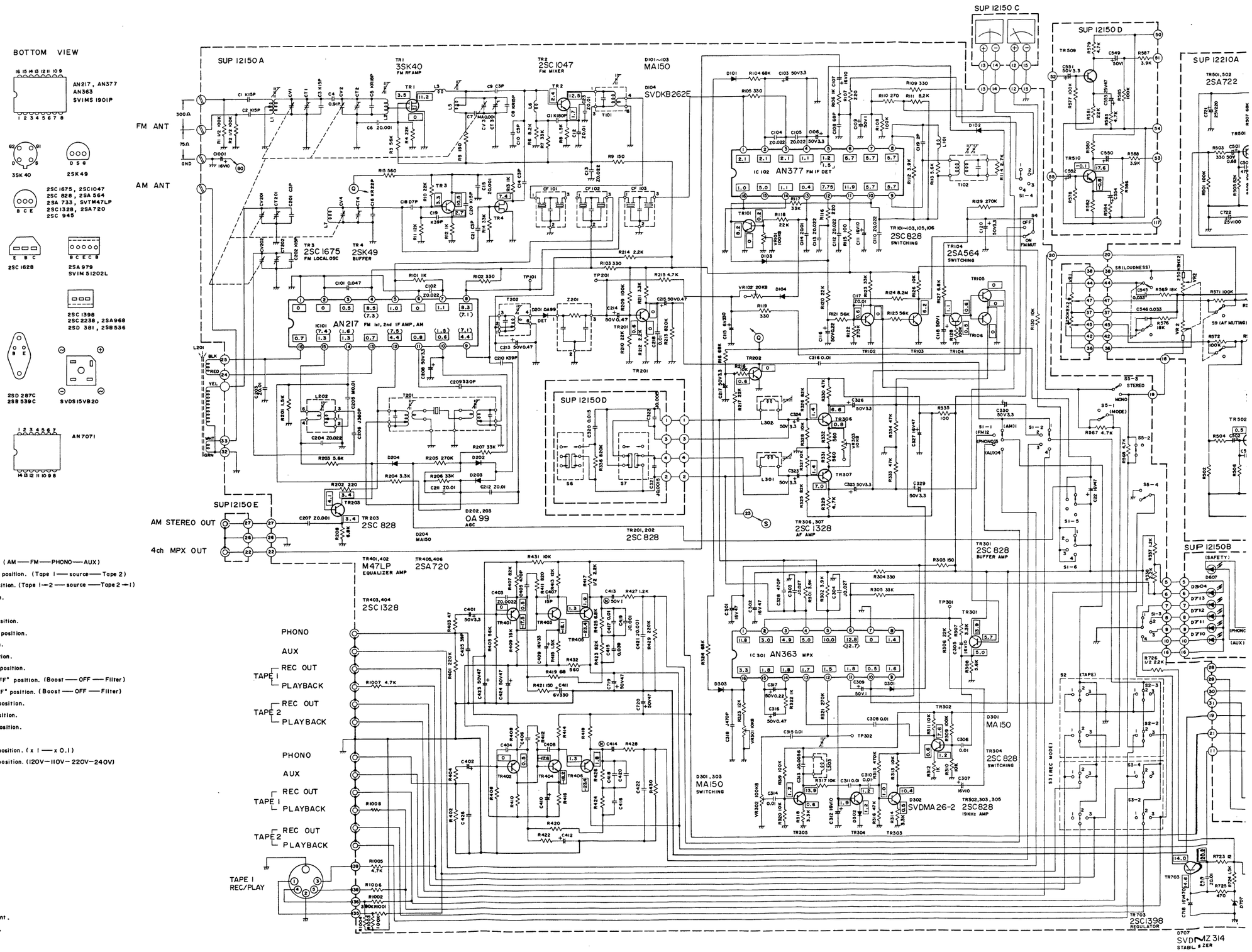
2. Connection and disconnection of the power cord plug

1) Wet hands are dangerous.
A dangerous electric shock may result if the plug is touched by wet hands.

2) Don't pull the power cord.
Always grasp the plug; never pull the cord itself.



Schematic Diagram ... Model SA-800/SA-800A (This schematic diagram may be modified at any time with the development of new technology)

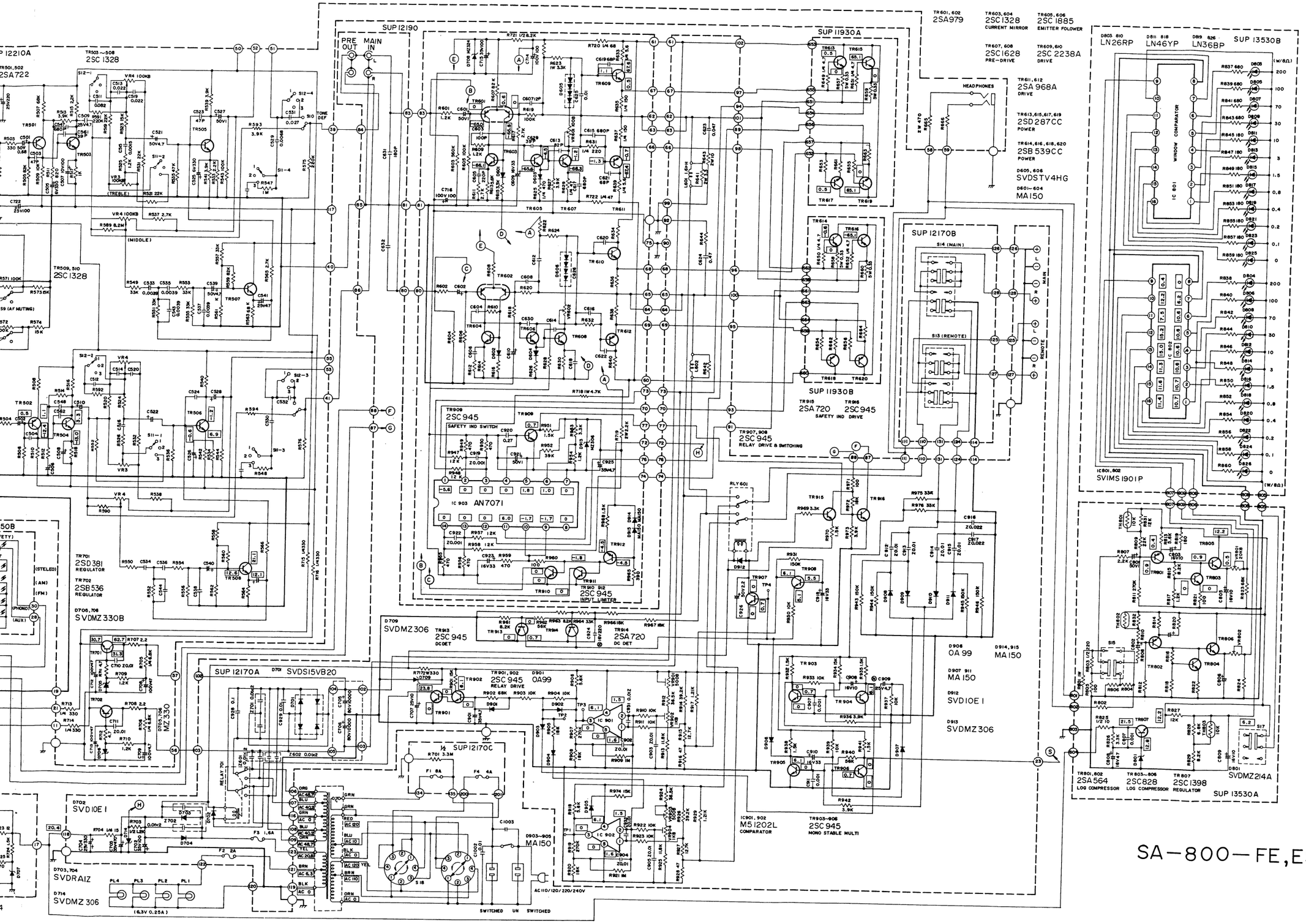


NOTES 1

1. S1 Selector switch in "AM" position. (AM——FM——PHONO——AUX)
2. S2 Tape monitor switch in "SOURCE" position. (Tape 1——source——Tape 2)
3. S3 Rec mode switch in "SOURCE" position. (Tape 1—2——source——Tape 2—1)
4. S4 FM Muting switch in "ON" position.
5. S5 Mode switch in "STEREO" position.
6. S6 FM Hi-Blend switch in "OFF" position.
7. S7 FM MPX Filter switch in "OUT" position.
8. S8 Loudness switch in "OFF" position.
9. S9 AF Muting switch in "0 dB" position.
10. S10 Acoustic control switch in "OFF" position.
11. S11 Acoustic control high switch in "OFF" position. (Boost——OFF——Filter)
12. S12 Acoustic control low switch in "OFF" position. (Boost——OFF——Filter)
13. S13 Remote speaker switch in "OFF" position.
14. S14 Main speaker switch in "OFF" position.
15. S15 Power display switch in "OFF" position.
16. S16 Power switch in "ON" position.
17. S17 Display range switch in "x 0.1" position. (x 1——x 0.1)
18. S18 Voltage selector switch in "120V" position. (120V—110V—220V—240V)

NOTES 2

1. VR 1 Main volume control.
2. VR 2 Balance volume control.
3. VR 3 Treble control.
4. VR 4 Mid range control.
5. VR 5 Bass control.
6. VR 101 Muting level adjustment.
7. VR 102 Meter level adjustment.
8. VR 301 VCO adjustment.
9. VR 302 19kHz adjustment.
10. VR 303 Separation adjustment.
11. VR 601,602 ICQ adjustment.
12. VR 801,802 Power display level adjustment.
13. VR 901-904 Top range level adjustment.



SA–800–FE, ES, FEE

Printed in Japan ⇄QX263

Connections of SA-800A to other equipment

FM indoor antenna (Feeder antenna)

- Unfold to T-shape, and attach to a wall (using cellophane tape or tacks) facing in direction of best reception.
- Tacks should not contact internal antenna wire.
- For best reception sound quality, an exclusive antenna especially for FM is recommended.
- Remove this antenna if an special antenna is installed.

Special antenna for FM reception

(Necessary in mountainous region, inside reinforced-building, etc.)

Connection

20 mm ($\frac{25}{32}$") 10 mm ($\frac{3}{8}$")

Be sure the mesh wire contacts the clamp.

Clamp, Core wire, 75Ω coaxial cable, Mesh wire

AM antenna

Use 5~12 m (16~40 ft.) of vinyl-covered wire horizontally at the window.

(Necessary in mountainous region, inside reinforced-concrete building, etc.)

- **Cartridge output voltage:** 1~10 mV
- **Applicable cartridge types:** Moving-magnet, induced-magnet and high-output moving-coil cartridges.

4-channel multiplex output terminal ("4CH MPX OUT")
Multiplex output terminal for FM 4-channel broadcasts expected in future.
AM stereo output terminal ("AM STEREO OUT")
AM stereo output terminal for AM stereo broadcasts expected in future.

Antenna for reception of AM broadcasts. Pull outward to the position of best AM reception.

"PRE OUT/MAIN IN" terminals

PRE OUT MAIN IN

L R

Refer to page 7 operation instructions for detailed information.

"SWITCHED" outlet:
Connected equipment is turned on and off by power switch of this unit; connect equipment with power consumption of 150 W or less.
"UNSWITCHED" outlet:
Power is available regardless of power switch of this unit; connect equipment with power consumption of 150W or less.

Speaker cord connections

①Remove outer covering (insulation).

15 mm ($\frac{19}{32}$")

Twist

②Turn 3 or 4 times.

③Insert wire and tighten the screw completely. Core wire should not be visible.

Note:

- To prevent damage to circuitry, never short-circuit plus (+) and minus (−) speaker terminals.
- Speakers may be damaged if their allowable input is low and volume is set too high.

Voltage selector:
Before using this unit, be sure to set to correct voltage.
Refer to page 1.

Record player

SA-800A

Remote speaker (right)

Main speaker (right)

Open-reel tape deck

LINE OUT R L LINE IN R L

Cassette tape deck

LINE OUT R L LINE IN R L

Main speaker (left)

Impedance:
MAIN + REMOTE 8~16Ω
MAIN or REMOTE 4~16Ω

Connection wiring:
As thick as possible; 20m (65 ft.) maximum length

Remote speaker (left)

AC OUTLETS

8-track stereo tape deck (playback only) or second tuner.

SA-800A

Remote speaker

(right) (left)

For connection to second pair of speakers.

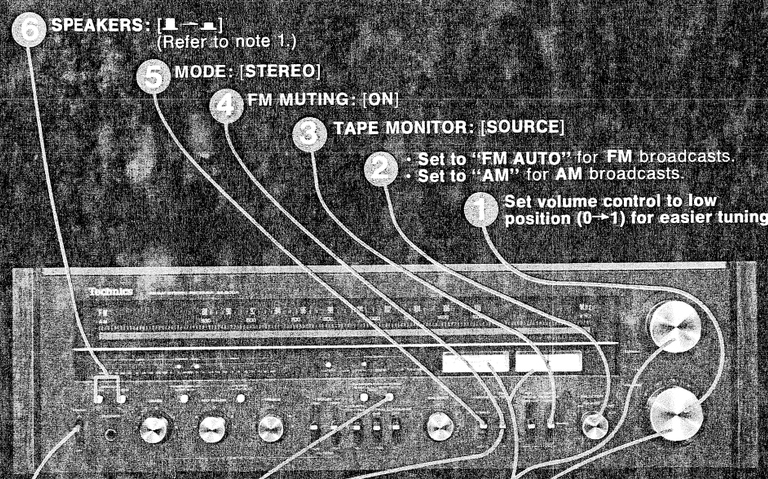
Note:
Tape deck 1
If the tape deck has a DIN (recording/playback) terminal, a DIN cord (separate purchase) can be connected for recording and playback by using only one cord.

Printed in Japan F0578M0 SQX501

SA-800A

Operation (Follow all steps in numbered order.)

To listen to radio broadcasts

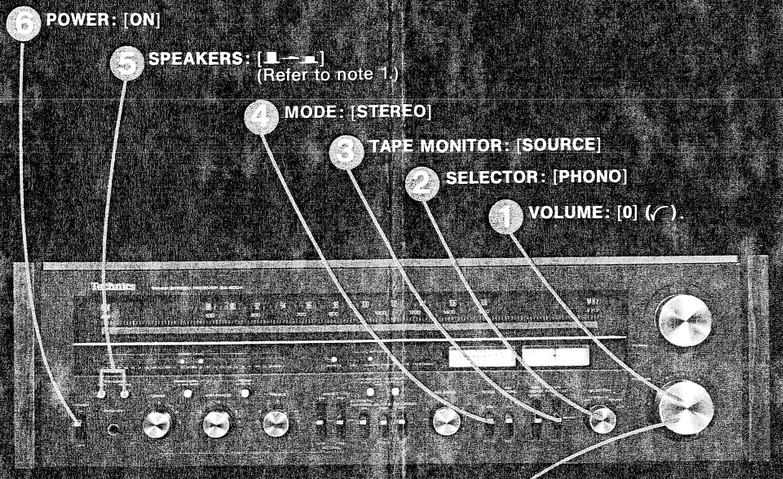


6 **SPEAKERS:** [▮—▬] (Refer to note 1.)
5 **MODE: [STEREO]**
4 **FM MUTING: [ON]**
3 **TAPE MONITOR: [SOURCE]**
2 • **Set to "FM AUTO"** for **FM** broadcasts.
• **Set to "AM"** for **AM** broadcasts.
1 **Set volume control to low position (0→1) for easier tuning.**
7 **POWER: [ON]**
9 **Adjust volume level (◠).**
8 **Tune to radio broadcasts (◠).**
• **Signal-strength meter:** Best reception is at point where indication needle is farthest to right.
• **Tuning meter:** Then best FM reception (least distortion) is at point where indication needle is at center.

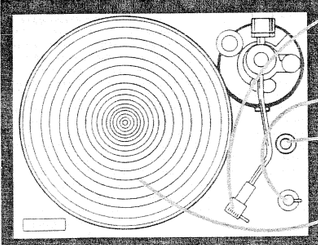
Set to "OFF" if FM signals are difficult to receive (mountainous region, etc.).

Set to "ON" (▮—▬) if noise is excessive in high sound range of FM stereo broadcasts.

To listen to phono discs



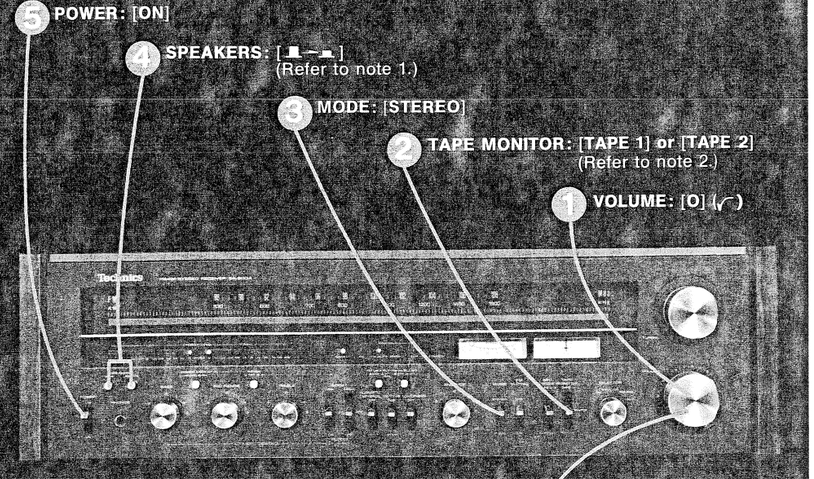
6 **POWER: [ON]**
5 **SPEAKERS:** [▮—▬] (Refer to note 1.)
4 **MODE: [STEREO]**
3 **TAPE MONITOR: [SOURCE]**
2 **SELECTOR: [PHONO]**
1 **VOLUME: [0] (◠).**
11 **Adjust volume level (◠).**
10 **Place pick-up on disc surface; performance will begin.**
9 **POWER: [ON]**
8 **Select speed.**
7 **Place disc on turntable.**



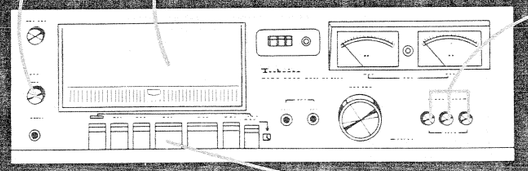
Record player (optional)

(Steps ⑦~⑩ may differ depending upon type of record player.)

To listen to tape



5 **POWER: [ON]**
4 **SPEAKERS:** [▮—▬] (Refer to note 1.)
3 **MODE: [STEREO]**
2 **TAPE MONITOR: [TAPE 1] or [TAPE 2]** (Refer to note 2.)
1 **VOLUME: [0] (◠)**
6 **POWER: [ON]**
7 **Insert cassette (with side to be played (A or B) upward).**
10 **Adjust volume level (◠).**
8 **Set tape selector to type of tape being used.**
9 **Push playback button down; performance will begin.**

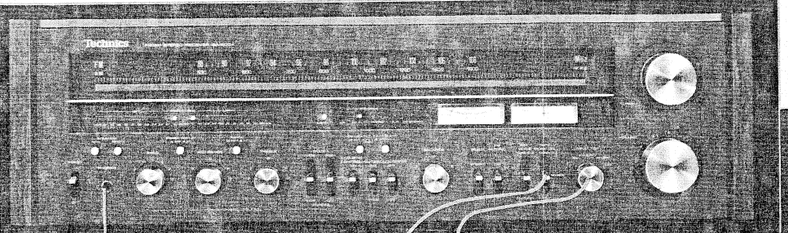


Cassette tape deck (optional)

(Steps ⑥~⑨ may differ depending upon type of cassette tape deck.)

• To use equipment connected to "AUX" terminals

• When listening through headphones



1 **INPUT SELECTOR: [AUX]**
2 **TAPE MONITOR: [SOURCE]**
3 • If a stereo tuner is connected to "AUX" terminals on rear panel, operate in same way as described in the section "To listen to radio broadcasts."
• If a tape deck is connected to "AUX" terminals on rear panel, operate in same way as described in the section "To listen to tape."

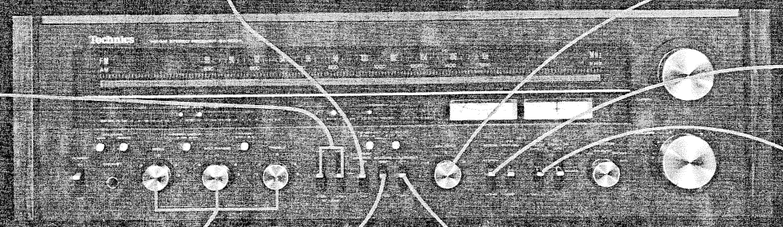
Release speaker selectors② (▮—▬) to "OFF" position when speaker sound is not wanted.

When listening through headphones

To use equipment connected to "AUX" terminals

Steps required for all operations

(Follow these steps, as necessary, for all operations after adjustment of volume level.)



At "BOOST" position: Low-range and high-range sounds are emphasized. (Note: Level of emphasis is same as at maximum setting (+5) of bass and treble tone controls㉓.)

When set to "OFF", characteristics will be "flat" regardless of setting of tone controls ㉓ and boost/filter selectors ㉒.

Adjust left/right volume balance.

Set to "MONO" to adjust left/right volume balance or to listen monaurally.

Use only for recording (Refer to page 8.)

Adjust tone quality as desired. Low-range sound is adjusted with bass control ("BASS"), mid-range sound with mid-range control ("MID RANGE"), and high-range sound with treble control ("TREBLE").

Set to "ON" when listening at low volume level.

Set to "–20 dB" to decrease volume quickly.

Notes: (1) Push "MAIN" button (▮—▬) to listen through speakers connected to "MAIN" terminals on rear panel.
(2) Set to "TAPE 1" to playback sound from tape deck connected to "TAPE 1" terminals on rear panel.

● **After performance is finished, power switches of all equipment should be turned off.**

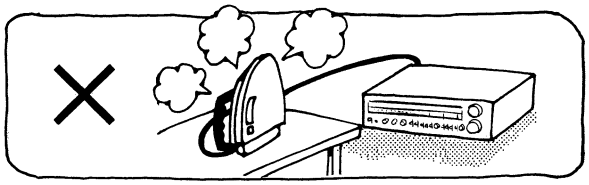
3. AC outlets on rear panel

1) Any equipment connected here should have specified power consumption or less.

These outlets are exclusively for the connection of other audio equipment, such as a tape deck. Be sure the power consumption of each does not exceed wattage specified near the AC outlets.

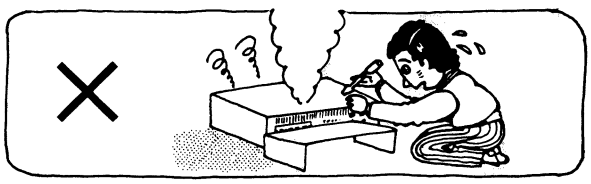
2) Never connect other electrical appliances such as an iron or toaster.

If appliances with a large power consumption are connected, an unexpected accident might occur as a result of overheating.



4. Never attempt to repair or reconstruct this unit.

A serious electric shock might occur if this unit is repaired, disassembled or reconstructed by unauthorized persons, or if the internal parts are accidently touched.

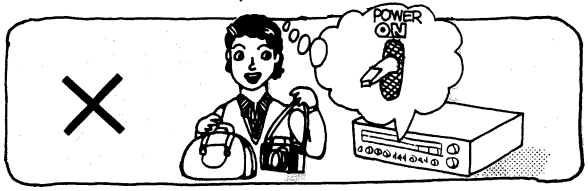


5. For families with children

Never permit children to put anything, especially metal, inside this unit. A serious electric shock or malfunction could occur if articles such as coins, needles, screwdrivers, etc. are inserted through the ventilation holes, etc. of this unit.

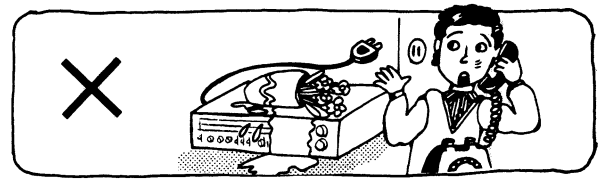
6. Turn off after use.

If the unit is left for a long time with the power on, this will not only shorten its useful operation life, but may also cause other unexpected trouble.



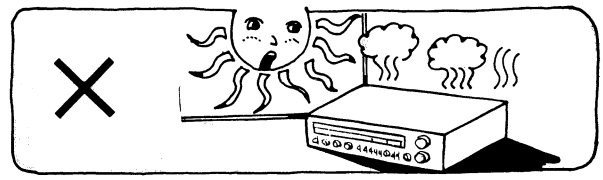
7. If water is spilled on the unit

Be extremely careful if water is spilled on the unit, because a fire or serious electric shock might occur. Immediately disconnect the power cord plug, and consult with your dealer.



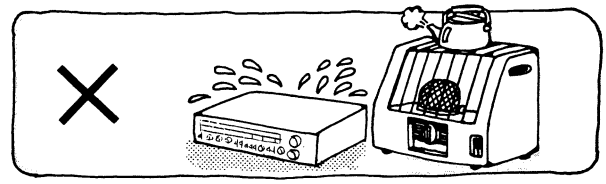
8. Place the unit where it will be well ventilated, and away from direct sunlight.

Place this unit at least 10 cm (4") away from wall surfaces, etc., and away from direct sunlight. Be careful that curtains and similar materials do not obstruct the ventilation holes.



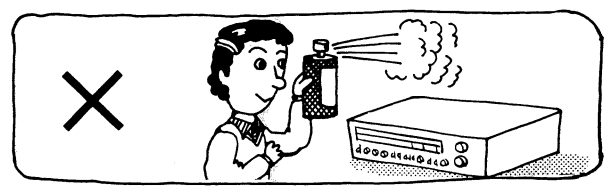
9. Keep the unit away from stoves, etc.

Heat can damage the external surfaces as well as internal circuits and components.



10. Avoid spray-type insecticides.

Insecticides might cause cracks or "cloudiness" in the cabinet and plastic parts of this unit. The gas used in such sprays might, moreover, be ignited suddenly.



If trouble occurs

If, during operation, the sound is interrupted or indication lamps no longer illuminate, or if abnormal odor or smoke is detected, immediately disconnect the power cord plug, and contact your dealer or an Authorized Service Center.